Code No.: EC611OE | R20 | H.T.No. | | | 8 | R | | | | | |

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
III–B.TECH–II–Semester End Examinations (Regular) - June- 2024
PRINCIPLES OF ELECTRONIC COMMUNICATIONS
(Common for CSC, CSE, IT, CSD)

[Time: 3 Hours] **[Max. Marks: 70]**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 20 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A **(20 Marks)**

1.	a)	Define Bandwidth.	[2M]
	b)	Find the wavelength of a signal whose frequency is 150-MHz.	[2M]
	c)	Explain why modulation is necessary or desirable.	[2M]
	d)	What is the difference between PAM and PWM?	[2M]
	e)	What is Ground Control Equipment?	[2M]
	f)	Explain the principle of satellite communication with suitable diagrams.	[2M]
	g)	A fiber-optic cable has a bandwidth rating of 600 MHz/km. What is the bandwidth of a 500-ft segment of cable?	[2M]
	h)	Define total internal reflection.	[2M]
	i)	What is UWB?	[2M]
	j)	What are Wireless LAN Standards?	[2M]

PART-B **(50 Marks)**

2.	Explain Modulation and Frequency translation.	[10M]
	OR	
3.	Explain signal Gain, Attenuation, and Decibels.	[10M]
4.	Describe the two basic ways in which amplitude modulator circuits generate FM.	[10M]
	OR	
5.	Analyze pulse modulation techniques and compare them.	[10M]
6.	Explain Satellite Applications.	[10M]
	OR	
7.	Explain Global Positioning System.	[10M]
8.	What is acceptance angle and derive the expression for acceptance cone.	[10M]
	OR	
9.	Explain Wavelength-Division Multiplexing.	[10M]
10.	Explain Wireless LAN with suitable sketches.	[10M]
	OR	
11.	Explain PANs and Bluetooth.	[10M]

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